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November 22, 1996

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
Washington, D.C. 20554

NOV 22 1996

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Re: **MM Docket No. 87-268**

Dear Mr. Caton

Submitted on behalf of Golden Orange Broadcasting Co., Inc., licensee of Television Broadcast Station KDOC-TV, Anaheim, California, are an original and four copies of its comments in response to the Commission's Sixth Further Notice of Proposed Rule Making in the above-captioned proceeding.

Very truly yours



Richard A. Helmick

Enclosures

cc w/encl.: Robert Eckert (OET)



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BEFORE THE

Federal Communications Commission

In the Matter of)
)
Advanced Television Systems)
and Their Impact upon the)
Existing Television Broadcast)
Service)

MM Docket No. 87-268

To: The Commission

COMMENTS OF GOLDEN ORANGE BROADCASTING CO., INC.

Golden Orange Broadcasting Co., Inc. ("Golden Orange"), licensee of independent Television Broadcast Station KDOC-TV, Anaheim, Orange County, California, hereby submits its comments on the Commission's Sixth Further Notice of Proposed Rule Making (FCC 96-207, released August 14, 1996) (hereinafter "NPRM") which proposes policies for developing the initial digital television (DTV) channel allotments, procedures for assigning DTV frequencies and plans for spectrum recovery. In support thereof, the following is set forth.

1. **Introduction.** The Commission's Draft DTV Table of Allotments is based on three principles: (1) accommodation of all full-service TV broadcast licensees and eligible permittees and applicants with a DTV channel; (2) replication of the NTSC service area by allotting DTV channels on the basis of the NTSC channel transmitter location, effective radiated power and antenna height above average terrain; and (3) sound frequency management through allotment of DTV channels, either initially or after a transition period, to a core frequency spectrum, to ensure spectrum efficiency and to facilitate recovery and reallocation of NTSC spectrum. Golden Orange generally

supports the Commission's proposed DTV allotment principles, especially utilization of outcome based planning so that secondary channel relocations in the post transition DTV band will be minimal. The intentional placement of high channel UHF stations on a DTV channel lower in the band while existing NTSC stations are assigned higher channels, even outside the core, makes for sound planning methodology. Without this approach, Golden Orange feels that the core spectrum approach could not be achieved.

2. **Situation of KDOC-TV.** The KDOC-TV transmitter operates from a secondary antenna farm site on Sunset Ridge, whereas the primary antenna farm site for most stations in the Los Angeles DMA is at Mt. Wilson, some 22 miles west of Sunset Ridge. KDOC-TV is prevented from transmitting from Mt. Wilson because of a 20-mile NTSC UHF taboo involving a station already located at Mt. Wilson. The Anaheim central post office is 26 miles east of the Los Angeles post office annex and Orange County and Los Angeles County are contiguous jurisdictions; thus, the KDOC-TV's city of license and surrounding service area are centrally located to the Los Angeles DMA. Deficiencies inherent to the Sunset Ridge transmitter site, as discussed below, however, currently preclude KDOC-TV from adequately serving its city of license and surrounding coverage area and such situation should be ameliorated in the DTV allotment process.

3. A total of 14 Los Angeles area VHF and UHF stations are located on Mt. Wilson; homeowners utilizing outdoor roof-mounted receive antennas uniformly position them in the direction of Mt. Wilson, the primary antenna farm site, rather than toward Sunset Ridge, the secondary antenna farm site, resulting in antenna orientation discrimination problems. The extent of such problem was documented in 1990 when Golden Orange contracted with Arbitron to conduct surveys to determine the ability of television viewers to receive KDOC-TV in the Los Angeles

television market; in two different samples, Arbitron determined that 80% of the non-cable homes reported they could not receive KDOC-TV off air. It was further determined that in order to receive an acceptable signal for KDOC-TV, household antennas had to be adjusted; while indoor antennas can be adjusted without too much inconvenience, the adjustment of stationary rooftop antennas is not practicable.

4. In addition to the antenna orientation problem inherent to Sunset Ridge's status as a secondary antenna site for the Los Angeles metro market, there are also intervening terrain obstacles which impede service from Sunset Ridge to KDOC-TV's community of license and surrounding areas of Orange County. In the period since 1982 when KDOC-TV first initiated broadcast operations, the urban expansion of Orange County has been principally to the east and south into areas which are shadowed from Sunset Ridge by the intervening Santa Ana Mountains; direct line of site coverage to these areas, however, is obtained from the Mt. Wilson antenna farm site.

5. Since Anaheim is essentially equally distant from both Mt. Wilson and Sunset Ridge, and given that the Sunset Ridge transmission site is clearly not the optimum location for a TV station serving the Los Angeles metro market, it would not be in the public interest to constrain KDOC-TV's DTV allocation to its currently licensed NTSC transmission site at Sunset Ridge, especially since, but for the UHF taboo restriction which precludes operation from Mt. Wilson, KDOC-TV would be operating from the Mt. Wilson transmission site. Moreover, a Mt. Wilson allocation for Station KDOC-TV comports with the Commission philosophy which encourages antenna farms and, particularly with respect to DTV, shared use of tower facilities.

6. **Proposed DTV Allotment.** The Commission's Draft DTV Allotment Table proposes to assign DTV Channel 38 for use by KDOC-TV. KDOC-TV supports this proposed DTV allocation, as such allocation would be compatible with operation at the Mt. Wilson primary transmission site. Moreover, as is set forth in the attached Engineering Statement, the allocation of DTV Channel 38 for use by KDOC-TV at Mt. Wilson would ensure more efficient replication of its predicted service area and have no substantial adverse effect on existing NTSC allocations or proposed DTV allocations.

7. The closest co-channel allotment to DTV Channel 38 is NTSC Channel 38 at Santa Barbara. There is no operating station on Channel 38 at Santa Barbara and the separation between that NTSC channel and DTV Channel 38 at the Mt. Wilson primary transmission site would be 110.3 miles, which exceeds the 97 mile minimum separation for co-channel operations proposed in the Commission's Draft DTV Table of Allotments.^{1/} See NPRM at ¶ 82. Moreover, as NTSC Channel 38 at Santa Barbara is not in operation, there would be no loss of service or adverse impact on existing viewers resulting from the allocation of DTV Channel 38 at Mt. Wilson for use by KDOC-TV.^{2/}

8. Conversely, KDOC-TV operating on DTV Channel 38 at Mt. Wilson would, for the first time, be able to provide adequate service to viewers in its community of license and surrounding

^{1/} It should be noted that the identical mileage separation exists between NTSC Channel 22 at Los Angeles and the Commission's proposed DTV Channel 22 allotment at Santa Barbara.

^{2/} Applications for Channel 38 have been pending since 1984. The prospective date for any future operation is purely speculative. Indeed, considering the tenuous prospect for any Channel 38 operation, the ultimate licensee should be required to construct on its DTV allocation rather than the NTSC allocation.

service area and compete with other television stations in the Los Angeles metro area without the deficiencies inherent to operation from the secondary transmission site at Sunset Ridge. Indeed, as set forth in the attached Engineering Statement, KDOC-TV would be able to achieve more efficient replication within its NTSC coverage area by serving 1,508,000 more people within its Grade B contour from Mt. Wilson than it currently serves from its present site at Sunset Ridge.

9. While the Commission's DTV channel allocation proposal is based upon using current NTSC transmitter sites and an area within a three-mile radius of the actual transmitter location, the Commission invited comments on whether it should permit a licensee to operate its DTV station at a site different from that of its NTSC operation, particularly if such site relocations involve movement to a common local TV transmission site and would be consistent with minimum spacing requirements and service to the community of license. NPRM, at ¶ 55. Golden Orange submits that sound engineering practice and the public interest compel that the DTV allocation for KDOC-TV contain a site restriction to the Mt. Wilson primary transmission site rather than the Sunset Ridge secondary transmission site from which KDOC-TV currently must operate; for purposes of such site restriction, the Commission should use geographic coordinates 34° 13' 38" north latitude, 188° 04' 00" west longitude.

10. Initial allocation of DTV Channel 38 (or some other appropriate DTV channel) for use by KDOC-TV at the primary Mt. Wilson transmission site is critical. While the Commission proposes to make short-spaced or non-conforming DTV allotments during the initial assignment phase for existing stations, subsequent additions or modifications to the DTV Allotment Table would be required to comply with minimum spacing or other engineering requirements. NPRM at ¶ 102. Accordingly, the DTV Table of Allotments which is adopted by the Commission in this proceeding

will be the last and best opportunity to rectify the operational constraints and limitations under which KDOC-TV must currently operate its NTSC Channel 56 in the congested Los Angeles television market. More importantly, the proposed allocation of DTV Channel 38 for use by KDOC-TV with a site restriction to the Mt. Wilson primary transmission site would serve the public interest by enabling KDOC-TV to better serve its community of license and surrounding service area.

11. **Core Spectrum Concept.** Golden Orange supports the Commission's proposal to assign DTV channel allotments to a core region of the spectrum. The Commission has stated its intention to assign current NTSC Channels 7-51 as the eventual core DTV spectrum. The elements of the Commission planning with respect to the Draft DTV Table of Allotments demonstrate a methodology of channel allocation by which such a consolidation of the TV band could be achieved. Golden Orange acknowledges that there will be many potential problems with the conversion, including international border issues,^{3/} existing UHF land mobile services, LPTV, and a host of unforeseen operational and technical problems. However, Golden Orange concludes that the allocation of DTV channels within the proposed core spectrum to NTSC stations currently operating outside the proposed core spectrum, while, conversely, assigning DTV channels to NTSC VHF stations already within the core in anticipation that such stations will eventually revert to their existing NTSC channels for continued DTV operations following the conversion process, is an extraordinarily sound allotment principle. In other allotment plans Golden Orange has reviewed, little attention was paid to the spectral UHF fragmentation left in its wake. A good allotment table must conclude from the beginning the character and expanse of the spectrum to be devoted to

^{3/} See NPRM at fn. 93.

terrestrial DTV broadcasting. A plan which intentionally allocates spectrum in a manner to preserve all existing NTSC channels for DTV is operating from a flawed premise. It best serves the public and the industry for DTV to use all the channels necessary to accomplish its mission, but no more.

12. The Commission recognizes that whatever DTV core spectrum is ultimately adopted, in order to provide all eligible broadcasters with a new DTV allotment, some degree of interference to both NTSC and DTV stations is unavoidable. NPRM at ¶ 40. Nevertheless, Golden Orange agrees that the core spectrum concept will further the most efficient use of available frequency spectrum and facilitate the recovery and reallocation of NTSC spectrum after the transition to DTV. Until the DTV implementation process is underway and thoroughly field tested through actual operations, however, the Commission should not engage in premature efforts to recover NTSC spectrum.

Respectfully submitted

GOLDEN ORANGE BROADCASTING CO., INC.

Dated: November 22, 1996

By: Calvin C. Brack
Calvin C. Brack, Chief Executive Officer

Bernard R. Segal, P.E.
Consulting Engineer
Washington, DC

ORIGINAL

**ENGINEERING STATEMENT
GOLDEN ORANGE BROADCASTING CO., INC.
MM DOCKET NUMBER 87-268**

The instant engineering statement has been prepared on behalf of Golden Orange Broadcasting Co., Inc. (hereafter, Golden Orange), in support of their Comments in the FCC's proceeding in MM Docket Number 87-268 concerning Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service.

Golden Orange is the licensee of station KDOC-TV, Anaheim, California. KDOC-TV operates on UHF channel 56 with maximum effective radiated power of 2820 kilowatts and antenna radiation center height above average terrain of 728 meters. The KDOC-TV transmitter is located atop Sunset Ridge at geographic coordinates 34° 11' 14" North Latitude, 117° 42' 01" West Longitude.

The FCC allotment plan specifies use of DTV channel 38 for KDOC-TV with a DTV/NTSC area match of 98.4 percent.

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Consulting Engineer
Washington, DC

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Golden Orange Broadcasting Co., Inc.
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Golden Orange supports the Commission's pairing of DTV channel 38 with NTSC channel 56. However, Golden Orange, additionally, seeks that such an allotment be specified for use at Mt. Wilson, rather than at Sunset Ridge for the reasons discussed below.

Mt. Wilson is located a little bit more than 20 miles west of Sunset Ridge. Mt. Wilson is higher than Sunset Ridge and is the *de facto* antenna farm for most of the TV stations serving the Los Angeles basin. Golden Orange has been prevented from relocating KDOC-TV to Mt. Wilson because of a 20-mile NTSC taboo involving a station already located at Mt. Wilson.

With the advent of DTV, the same separation constraints as for NTSC are no longer applicable and Golden Orange seeks to eliminate some of the handicaps for its DTV operation that currently are experienced by its NTSC operation. Specifically, because most of the receiving antennas in the Los Angeles basin, which includes, also, Anaheim and Orange County, are directed toward Mt. Wilson, a substantial receiving antenna discrimination problem

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results for KDOC-TV. Additionally, the population growth in Anaheim and Orange County in which Anaheim is located, has been toward the east and south into an area that is terrain shadowed from Sunset Ridge but within line of sight from Mt. Wilson. Mt. Wilson is approximately the same distance from Anaheim as is Sunset Ridge. Thus, the use of Mt. Wilson for KDOC-TV would significantly improve reception of the station by a) eliminating antenna orientation discrimination problems and b) by affording better reception to the core service area.

In order to better establish how KDOC-TV would perform at Mt. Wilson on channel 38, the undersigned has had a replication study performed using TA Services of Boulder, Colorado. The TA Services program is reported to be similar to the FCC's program and uses the FCC's database and allotment criteria.

Figure 1 shows the study results for KDOC-TV NTSC operation on channel 56 at Sunset Ridge. It is readily apparent that a substantial portion of

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the Longley-Rice interference-free area within the predicted Grade B area is over the Pacific Ocean. Since neither the FCC program nor the TA Services program draws a distinction between land area and water area, the replication percentage provided in the FCC's Draft DTV Table of Allotments may not be correct.

The KDOC-TV DTV channel 38 Mt. Wilson study is shown in Figure 2. A maximum effective radiated power of 249.7 kilowatts was used with the same directional antenna radiation pattern as is currently employed for KDOC-TV at Sunset Ridge. The antenna radiation center height employed was 1870 meters above mean sea level. A side-by-side comparison of Figure 2 with Figure 1, considering land areas only, reveals that KDOC-TV operation from Mt. Wilson encompasses substantially the entire present channel 56 NTSC Longley-Rice service within the predicted Grade B contour.

According to the Longley-Rice prediction, the present KDOC-TV, channel 56, operation provides within the predicted Grade B contour

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interference-free service to 10,213,000 persons; NTSC interference is caused to 1,490,000 persons, and DTV interference is caused to 109,000 persons.

For KDOC-TV operation from Mt. Wilson on channel 38, the Longley-Rice interference-free population within the Grade B contour is 11,721,000 persons; NTSC and DTV interference would affect 974,000 persons. Thus, 1,508,000 more persons within the Grade B contour would be able to receive KDOC-TV from a site at Mt. Wilson than at present from Sunset Ridge.

The closest cochannel allotment that merits consideration for a Mt. Wilson site for KDOC-TV is the NTSC channel 38 allotment to Santa Barbara. There is no operating station on channel 38 at Santa Barbara. Several contestants are competing for the facility and the ultimate victor has not yet been determined. Thus, there is no actual viewership of channel 38, Santa Barbara, at present. Figure 3 shows the conditions for Santa Barbara, channel 38, with KDOC-TV operating with its DTV facility on channel 38 at Sunset Ridge. Figure 4 is a similar study for Santa Barbara, but with KDOC-TV

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operating from Mt. Wilson in the manner described earlier. A side-by-side comparison of Figure 4 with Figure 3 reveals that virtually all the new interference that would be caused to the Santa Barbara station from KDOC-TV at Mt. Wilson, is over water. Thus, insofar as the Santa Barbara station is concerned, it does not make much difference whether KDOC-TV operates from Sunset Ridge or from Mt. Wilson. The study does indicate that KDOC-TV at Mt. Wilson would reduce the Longley-Rice interference-free coverage by 66,000 persons. However, these persons currently do not receive service, and so would not be deprived of an accustomed service.

The separation between the Santa Barbara, channel 38, facility employed in the FCC's Draft Table, is 110.3 miles from the assumed Mt. Wilson site that has been used for the KDOC-TV DTV, channel 38, operation. That separation exceeds the 97-mile minimum separation which the FCC indicated in Paragraph 82 of the Sixth Further Notice of Proposed Rule Making was the minimum spacing used for cochannel operations in crafting the Draft Table. Also, the FCC's Draft Table proposes DTV operation for Santa Barbara on

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channel 22, cochannel with an existing Los Angeles NTSC Mt. Wilson located channel 22 facility. Hence, the cochannel use of channel 38 at Mt. Wilson and at Santa Barbara presents no unique situation.

In summary, Golden Orange concurs with the FCC's proposal to allot DTV channel 38 for use for KDOC-TV. The nonadjacent channel set aside for KDOC-TV affords an opportunity for relocation of the station to Mt. Wilson while not adversely impacting on critical allotment guideline criteria. As has been demonstrated herein, operation by KDOC-TV from Mt. Wilson would provide additional benefits that cannot be achieved by KDOC-TV operation from Sunset Ridge. Hence, an initial allotment that specifies Mt. Wilson for operation for KDOC-TV is preferred to an allotment which would require use of Sunset Ridge. Golden Orange would not object to reasonable footnoted conditions in the Table of Allotments which would afford KDOC-TV the ability to operate from Mt. Wilson from the outset with its DTV facility. After adoption of the final allotment table, KDOC-TV would not be able to relocate to

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Mt. Wilson under the proposed minimum separation criteria for new and future allotment changes.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 21, 1996.

A handwritten signature in black ink, reading "Bernard R. Segal". The signature is written in a cursive style with a large, stylized initial "B".

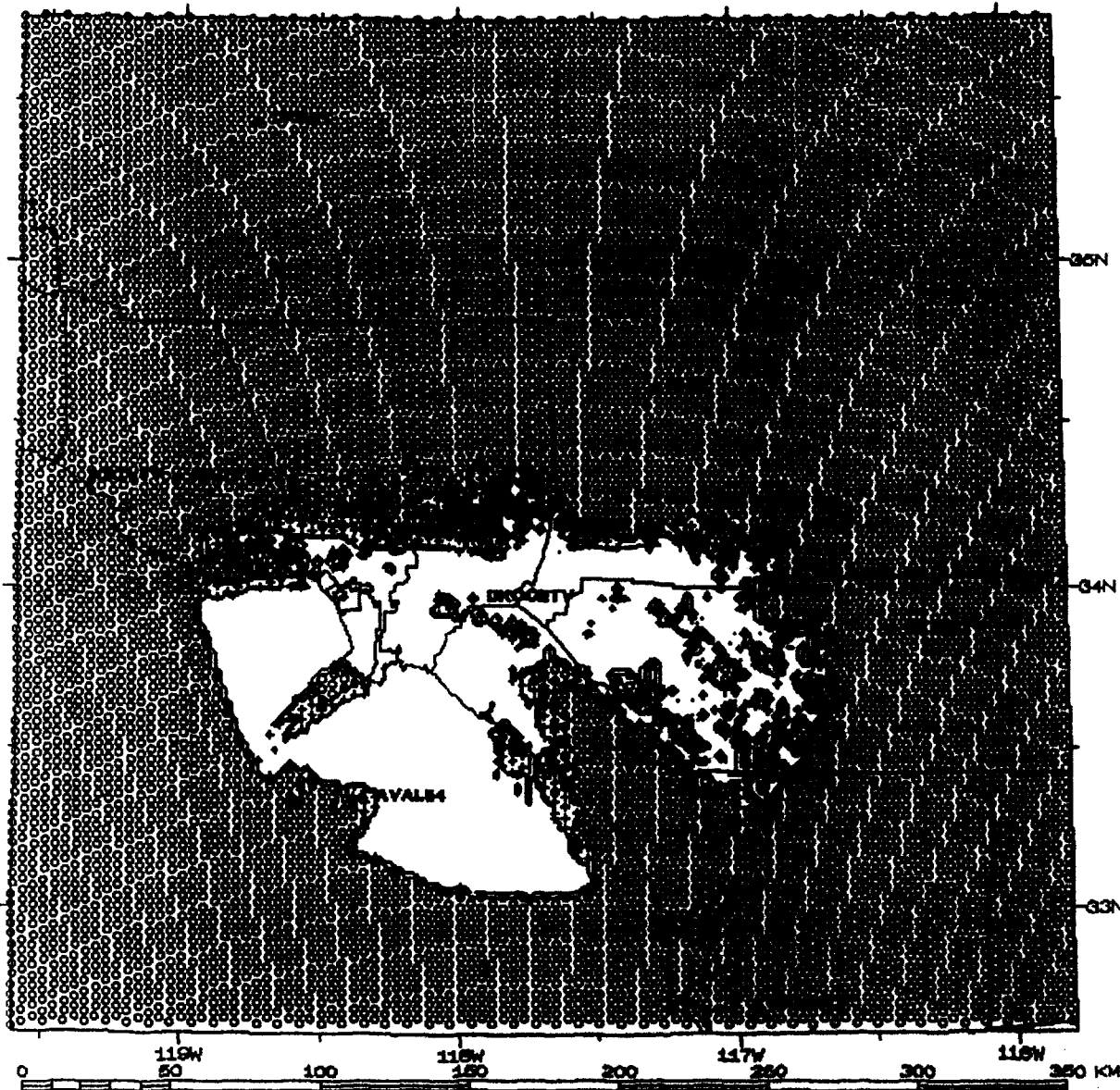
Bernard R. Segal, P.E.

NOVEMBER 1996

KDOC-TV,
NTSC, CH 56
LONGLEY-RICE COVERAGE
WITHIN FCC PREDICTED
GRADE B

Prepared for
GOLDEN ORANGE BCSTG. CO., INC.
ANAHEIM, CALIFORNIA

Bernard R. Segal, P.E. Consulting Engineer



Signal to Interference ratio

- ☐ No Interference
Area: 14500 sq km
Population: 10213000
Households: 3411000.
- ☐ HDTV Interference
Area: 450 sq km
Population: 109000
Households: 39000.
- ☐ NTSC Interference
Area: 2510 sq km
Population: 1490000
Households: 538000.
- ☐ Signal below minimum
Area: 105020 sq km
Population: 5557000
Households: 1928000.

Figure 1

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KDOC-TV, DTV
CH 38
LONGLEY-RICE COVERAGE
WITHIN FCC PREDICTED
GRADE B

Prepared for
GOLDEN ORANGE BCSTG. CO., INC.
ANAHEIM, CALIFORNIA

Bernard R. Segal, P.E. Consulting Engineer

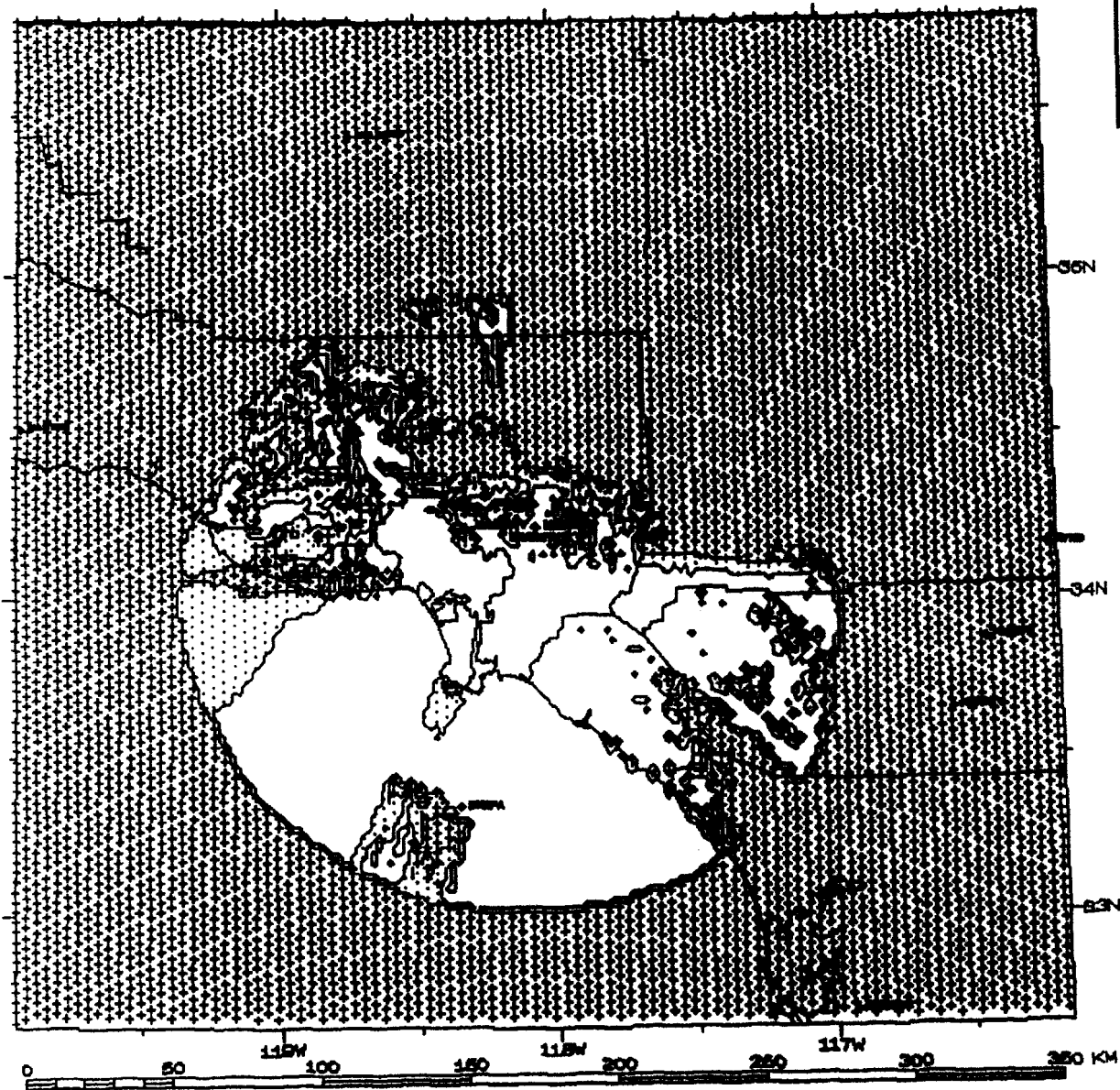


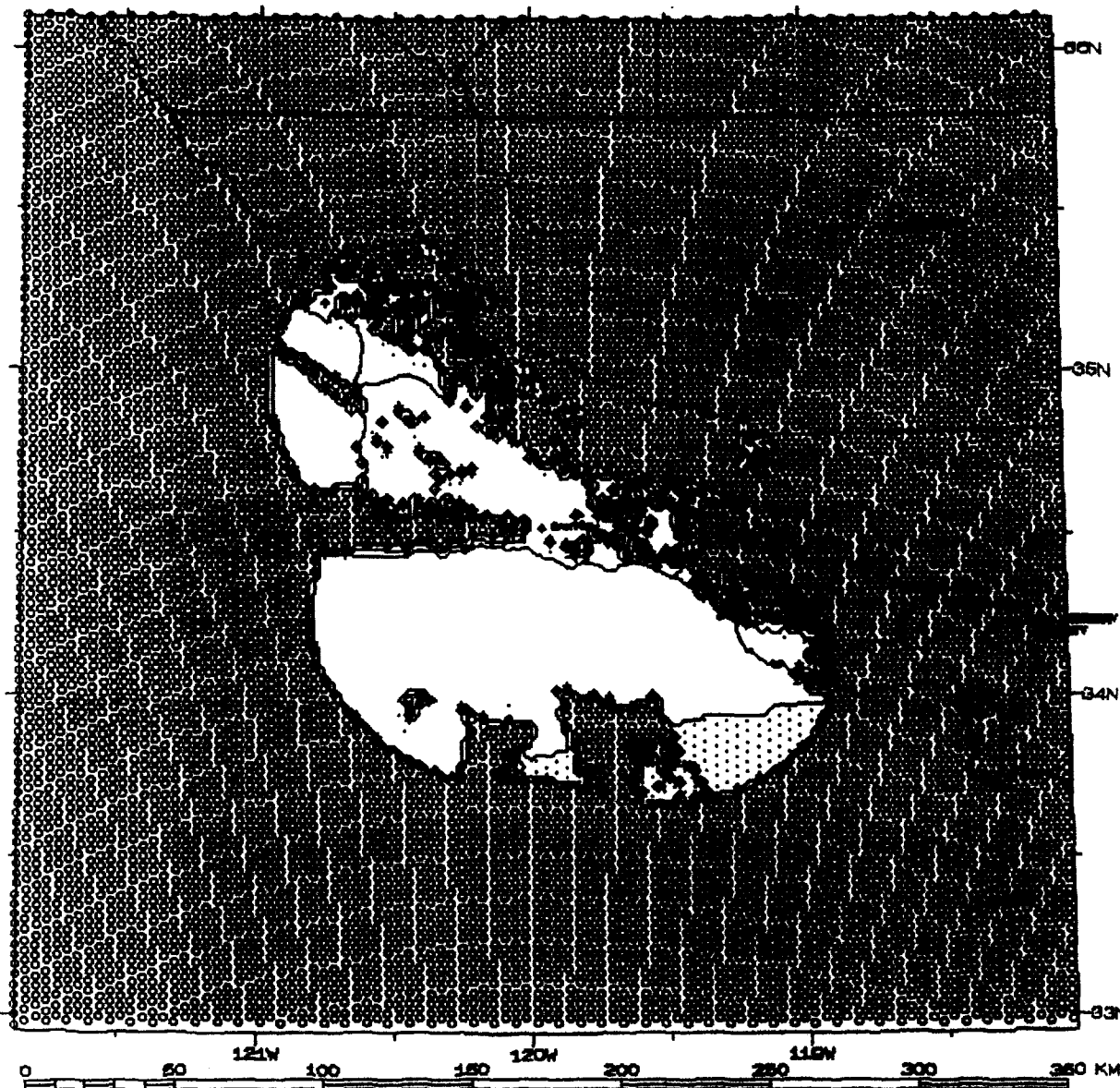
Figure 2

NOVEMBER 1996

NEW, SANTA BARBARA
NTSC, CH 38
LONGLEY-RICE COVERAGE
WITHIN FCC PREDICTED
GRADE B
FOR KDOC-TV AT SUNSET RIDGE

Prepared for
GOLDEN ORANGE BCSTG. CO., INC.
ANAHEIM, CALIFORNIA

Bernard R. Segal, P.E. Consulting Engineer



Signal to Interference ratio

- ☐ No Interference
Area: 13870. sq km
Population: 644000.
Households: 221000.
- ☐ HDTV Interference
Area: 2470. sq km
Population: 111000.
Households: 39000.
- ☐ NTSC Interference
Area: 600. sq km
Population: 28000.
Households: 11000.
- ☐ Signal below minimum
Area: 106630. sq km
Population: 6865000.
Households: 3021000.

Figure 3

NOVEMBER 1996

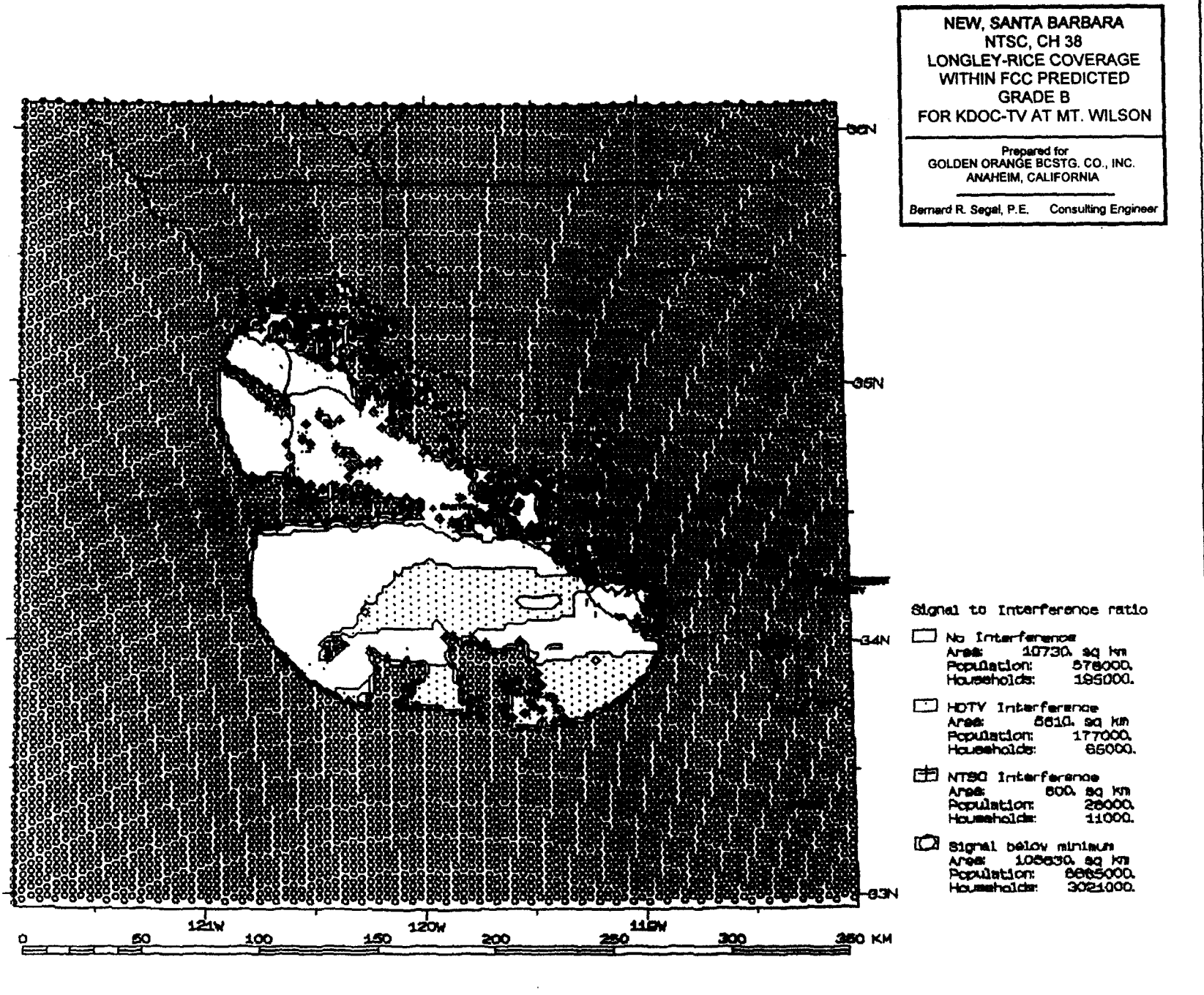


Figure 4